and becomes, by this ingenious contrivance, a source of great private emolument, as well as national utility." The Stockton and Darlington, the Manchester and Liverpool, and many other Railways, executed or projected in England, furnish instances equally as striking. Upwards of two thousand miles of railway have already been completed in England, or are speedily progressing to completion; and for the most part for the very purpose of overcoming peculiar difficulties of ground which inhibited other modes of improvement.

But the examples furnished by our own country, young as it is in the knowledge of all that relates to this mode of improvement, are yet more striking. The Mauch Chunk railway, which is about 9 miles in length, presents a rise of 943 feet in 8 miles. The following tabular view will show a progressive elevation greater than any which will be encountered on the proposed route.

Point.	1 mile	2d	3d	4th	5th	6th	7th	8th	9th
Elevation. Feet.	240	353	469	538	633	735	844	943	936

This railway terminates about 240 feet above the river, whence there is a descent to the river by an inclined plane, of 700 feet in length. Its elevation, it will be observed, is nearly equal to one third of the entire elevation and depression of the entire route for a railway from Baltimore to the Ohio river. The Quincy railway, which is three miles in length, is for a considerable part of it constructed over a deep morass, where the rails are supported by piles, and yet the entire cost of that road did not exceed 11,000 dollars per mile. There also they have recently completed an inclined plane of five hundred feet in length, of which the elevation is about 36 degrees, or 330 feet, on which, in four minutes, they take up an empty waggon of one ton weight, and let down a full waggon of nine tons weight. A railway has also just been projected, and is now in a train for completion, and is, in connection with the Delaware and Hudson canal, which will extend over Moosick mountain to the coal mines, on Lackawannock creek, and the length of which will be 16½ miles, on which route they will overcome an elevation of 858 feet.

The general rules in relation to the construction of railways, as established by experienced and scientific men are:—That locomotive engines may be used whenever the deviation from the horizontal line does not exceed 27½ feet per mile, which is considered as a level with reference to their employment. That horse power may be used to advantage, where the elevation is much greater; and that by the aid of stationary engines, any elevation may be overcome. The remarks which will be submitted hereafter, as to the probable cost of this road, will also be found to apply, with great force, to the question of physical practicability, and the committee will therefore content itself with a general reference to them.

Passing from this branch of the subject to the consideration of